

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

SEP 27 1994

In the Matter of)	
)	
Amendment of the Commission's)	GEN Docket No. 90-314
Rules to Establish New Personal)	RM-7140, RM-7175, RM-7618
Communications Services)	

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**REPLY COMMENTS
ON UTAM PLAN FOR FINANCING AND
MANAGING 2 GHZ MICROWAVE RELOCATION**

Apple Computer, Inc. ("Apple") hereby submits these reply comments on the UTAM Plan for Financing and Managing 2 GHz Microwave Relocation, filed August 1, 1994 (the "UTAM Plan").

I. OVERVIEW AND SUMMARY OF ARGUMENT

In permitting the early deployment of "coordinatable" devices and tentatively designating UTAM, Inc. ("UTAM") as the coordinator for the transition of the unlicensed band from fixed microwave service to unlicensed PCS, the Commission set forth three basic requirements:

- Unlicensed PCS devices, including "coordinatable" devices deployed in advance of band clearing, must not cause interference to existing microwave operations.
- The UTAM funding plan must be equitable to all prospective manufacturers of unlicensed PCS devices.
- The UTAM band clearing plan must permit the implementation of nomadic devices and, in particular, nomadic data PCS devices, "as promptly as possible."¹

¹ Second R&O, 8 FCC Rcd 7700 at ¶ 88, Appendix A at 9 (new Section 15.307(a)).

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The comments filed in response to the Plan indicate, however, that UTAM's current proposal falls far short of meeting any of these requirements. The Plan provides only an outline sketch of how UTAM will address the central issues involved in the early-deployment and band-clearing processes. Moreover, it indicates that UTAM remains focused on the needs of its principal members (*i.e.*, the early deployment of coordinatable devices), and makes clear that these members will not contribute to clearing the asynchronous band for nomadic devices.²

If the UTAM Plan were adopted in its current form, it would pose unacceptable risks and uncertainties for both microwave incumbents and manufacturers of unlicensed PCS devices, and would delay the deployment of unlicensed nomadic devices until well into the next century.

Accordingly, the Commission should reject the UTAM Plan, revoke its conditional authorization of UTAM, modify its Rules to permit another qualified entity or entities to manage the transition of the unlicensed band, and initiate a new process for the designation of such an entity or entities.

Alternatively, and at a minimum, the Commission should direct UTAM to modify its Plan to cure the defects in its early deployment and band clearing proposals, limit UTAM's authority to managing the transition of the isochronous portion, only, of the unlicensed band, and address the process for managing the transition of the asynchronous portion of the unlicensed band(s) in connection with a future proceeding to allocate additional spectrum for unlicensed asynchronous devices.

² Eight companies — AT&T, Northern Telecom, Sony, Motorola, Omnipoint, Ericsson, Rolm, and PCSI — comprise UTAM's voting membership, and representatives from these companies make up UTAM's Board. Each of these companies has made clear that it is interested in deploying unlicensed voice systems, particularly wireless PBXs, in the isochronous portion of the unlicensed band. No major computer company is a UTAM voting member or a member of UTAM's Board. No new voting member has joined the original eight members since UTAM, Inc.'s organizational meeting in December of 1993.

II. THE COMMENTS FILED IN RESPONSE TO UTAM'S PLAN ILLUSTRATE THE INADEQUACIES OF UTAM'S CURRENT PROPOSAL.

In Apple's comments on the UTAM Plan, it discussed the Plan's failure to provide for the prompt clearing of the unlicensed data band and described the aspects of the Plan that make the prospects for the deployment of Data-PCS devices under UTAM's existing proposal hazy at best and hopeless at worst.

The other comments filed in response to UTAM's Plan make clear that the Plan as currently written also fails to meet the needs of incumbent microwave licensees and potential unlicensed PCS manufacturers. As such, it is inconsistent with the Commission's express requirements, as well as the goals set forth in the Second R&O.

Commenters representing existing users of the 1910-1930 MHz band universally questioned the adequacy of UTAM's Plan and raised serious concerns regarding whether UTAM's proposals for the early deployment of coordinatable devices will place their members at risk of interference.³ They pointed to flaws in core sections of the UTAM Plan, including:

- UTAM's decision to permit deployment in Zone 1 areas without site-specific coordinations, its proposed procedures for determining and enforcing Zone 1 spectrum aggregation "caps," its decision to employ only a 10% safety margin, and its proposed methods for preventing deployment of additional devices after the issuance of a "stop deployment" order;⁴

³ The Utilities Telecommunications Council ("UTC"), the Association of American Railroads ("AAR"), the American Petroleum Institute ("API"), and the South Florida Water Management District ("SFWMD") each filed comments regarding UTAM's Plan. Railroads, utilities, and petroleum companies operate a significant share of the microwave stations operating in and adjacent to the unlicensed band.

⁴ See Comments of AAR at 5-6; Comments of API at 11-12; Comments of SFWMD at 4-5; Comments of UTC at 4-5, 8. The risk that UTAM will be unable to enforce its installation reporting requirements and its "stop deployment" orders are especially great where products are sold through independent third-party distributors, rather than directly by UTAM member-manufacturers. Manufacturers clearly expect to use unaffiliated retailers to sell unlicensed PCS devices, and to delegate responsibility for complying with UTAM's sale and installation rules to such third-parties. See Comments of the North American Telecommunications Association ("NATA") at 2-3.

- UTAM's failure to specify a detailed, reliable process for verifying initial installation locations;⁵
- UTAM's rules for deployment control, which would exempt unlicensed units from deployment control up to 8 kilometers from a coordinated base station, would fail to prohibit further extension by chaining or "leapfrogging," and would not prevent mobile units from transmitting when out of range of their associated base station;⁶
- UTAM's delegation of responsibility for developing disablement mechanisms to manufacturers and the contents of its "sample" disablement test suite, which would in practice permit the relocation of coordinatable devices outside areas cleared for deployment and away from the locations specified in UTAM's database;⁷
- UTAM's failure to specify a precise method for conducting interference analyses and determining sites where coordinatable devices may be deployed, and its statements that it would make undefined or undisclosed modifications to TIA Bulletin 10-F, an industry-adopted and accepted standard;⁸

⁵ See Comments of API at 13-15; Comments of SFWMD at 7-8; Comments of UTC at 8.

⁶ See Comments of API at 15-17.

⁷ See Comments of SFWMD at 5-7; Comments of UTC at 5-7. For example, SFWMD notes that UTAM's proposed "8-hour" test could be circumvented by connecting an unlicensed PCS transmitter to an external battery while the device is being moved to a new location.

Preventing the uncontrolled relocation of "coordinatable" devices lies at the heart of any early deployment plan. If a device can be moved from its coordinated location, it may cause interference to fixed microwave users directly by being operated in an area that has not been coordinated, it may cause interference to microwave users indirectly by raising the aggregate power of deployed devices in a "Zone 1" area above the level reflected in UTAM's deployment database, and it will frustrate efforts to resolve interference complaints because it will operate at a location that is unknown to UTAM, the device's manufacturer, or the microwave operator.

⁸ See Comments of AAR at 6-7; Comments of API at 12-13; Comments of SFWMD at 3-5.

- UTAM's failure to set forth a clear, detailed, and workable process for identifying sources of interference and resolving interference complaints;⁹ and
- UTAM's optimistic cost sharing assumptions, which may cause it to have insufficient funds to complete the band clearing process.¹⁰

UTAM's Plan also fails to meet the legitimate needs of manufacturers. As discussed by SpectraLink, the plan lacks sufficient detail on the "critical" issues that will be of concern to manufacturers of coordinatable devices, including the coordination and subsequent deployment of coordinatable devices; methods for preventing interference to microwave incumbents; the collection and administration of clearing fees; manufacturer audits; the equipment certification process; and the dispute resolution process.¹¹ In addition, SpectraLink discusses the weaknesses in UTAM's financing assumptions and the potential effect UTAM's underfunding could have on smaller manufacturers.¹² Finally, as Hewlett-Packard explains, the existing Plan fails to address the realities of manufacturing lead times and does not address how and when the Zone 1/Zone 2 designations will be reviewed and updated.¹³

UTAM has glossed over the most vexing problems associated with early deployment. For example, it promises in passing to employ appropriate measures to protect proprietary information.¹⁴ It does not, however, deal with the inherent conflict between the legitimate needs of manufacturers and microwave licensees to know detailed information about deployed devices — to plan for "stop deployment" orders or to identify and resolve interference complaints — and the equally legitimate needs of manufacturers to maintain the

⁹ See Comments of AAR at 7-8; Comments of API at 17-18.

¹⁰ See Comments of API at 4-7.

¹¹ SpectraLink Comments at 3-4.

¹² *Id.* at 4-5.

¹³ Comments of HP at 1-3, 3-4.

¹⁴ UTAM Plan at 68-69.

confidentiality of information regarding where devices have been deployed, in which markets unlicensed PCS devices are selling well, and the like.¹⁵

II. THE COMMISSION SHOULD, THEREFORE, REJECT THE UTAM PLAN.

For the reasons discussed above, the UTAM Plan is, at best, a good faith attempt to deal with the responsibilities tentatively delegated by the Commission in the Second R&O. It is not, however, an adequate basis for the deployment of coordinatable devices or an acceptable approach for the development of nomadic devices, including Data-PCS. Under the terms of UTAM's conditional designation, the Commission should, therefore, reject the UTAM Plan, revoke its conditional authorization of UTAM, modify its Rules to permit another qualified entity or entities to manage the transition of the unlicensed band, and initiate a new process for the designation of such an entity or entities.¹⁶

Alternatively, and at a minimum, the Commission should direct UTAM to modify its Plan to cure the defects in its early deployment and band clearing proposals, limit UTAM's authority to managing the transition of the isochronous portion of the unlicensed band, and address the process for managing the transition of the asynchronous portion of the unlicensed band(s) in connection

¹⁵ Cf. Comments of UTC at 8 (discussing manufacturers' disincentives to report information accurately and completely).

¹⁶ The Commission also should prevent UTAM's members from making an end-run around the process of reviewing and, as appropriate, approving UTAM's band clearing and early deployment proposals. In particular, Northern Telecom has sought authority to deploy unlicensed PCS devices despite the fact that UTAM has not yet been finally designated and its Plan has not yet been approved.

Northern applied in May, 1993 for an "experimental" license under Part 5 of the Commission's Rules to deploy 1000 wireless PBXs. Its application was widely opposed, largely because Northern did not include provisions to protect existing microwave stations from interference. Northern has recently revised its experimental license request, asking for authority to deploy "only" 100 PBX systems. See Northern Telecom letter to H. Franklin Wright, Chief, Frequency Liaison Branch, FCC (September 13, 1994). Consistent with its earlier application, each system, which would be provided by Northern through independent dealers and distributors, could be comprised of a virtually unlimited number of associated base stations and handsets. In fact, Northern stated in its letter that it would be testing systems of larger capacity, suggesting that hundreds or even thousands of handsets could be used with each "experimental" PBX system. In its September 13 letter to the Commission, Northern urged the FCC to grant its request so that it could, among other things, "trial" the UTAM process, technical methodologies and deployment control schemes, apparently without waiting for UTAM to add specificity to its Plan in order to address the concerns raised in this proceeding, or for the FCC to act on UTAM's Plan.

with a future proceeding to allocate additional spectrum for unlicensed asynchronous devices.

When the Commission tentatively designated UTAM one year ago, it considered the asynchronous and isochronous bands to be two halves of a single unlicensed whole. Two events have occurred since the Second R&O was adopted, however, that make it appropriate for the Commission to reconsider that earlier decision and recognize the distinct (and divergent) needs associated with these two bands.

First, UTAM has made clear that it is either unwilling or unable to address the needs of nomadic devices, in particular nomadic data devices. The UTAM Plan focuses almost exclusively on early deployment of coordinatable (primarily voice) devices and, as discussed in Apple's comments, UTAM's adoption of segment self-financing essentially abandons the asynchronous band and removes any hope for prompt clearing by UTAM. Moreover, as discussed in Apple's comments, UTAM's governance and cost-allocation rules make it impossible for computer manufacturers and others interested in clearing the asynchronous band to participate equally in UTAM or to provide funding solely to clear the asynchronous band.¹⁷

Second, the Commission has revised its spectrum allocation for unlicensed PCS. At the time UTAM was tentatively given responsibility for the "unlicensed band," there was, in fact, a single unlicensed band. In its PCS order on reconsideration, however, the Commission reduced the contiguous allocation for unlicensed PCS in the 19 GHz band and stated its intention to allocate additional spectrum for unlicensed asynchronous and isochronous devices.¹⁸ Given the realities of spectrum availability, it is unlikely that any additional allocation for unlicensed asynchronous operation will be contiguous with any additional allocation for unlicensed isochronous operation.

¹⁷ As discussed in Apple's comments, UTAM decides important issues through a majority vote of its Board. UTAM's Board is authorized to include up to eleven members, eight of whom have already been chosen. As a result, even if Apple and other computer manufacturers were to join UTAM and become members of its Board, they would not be able to carry any issue on which the interests of voice and data manufacturers diverged.

¹⁸ Memorandum Opinion and Order, GEN Docket No. 90-314, 75 RR 2d 491 at ¶¶ 86-87 (released June 13, 1994).

As a result, the Commission should recognize that the interests of UTAM's members and Board, the complexities of the early deployment process, the differences in the principal applications envisioned for the unlicensed asynchronous and isochronous bands, and the divergence in the spectrum allocated for these applications all argue in favor of limiting UTAM to those responsibilities for which it is, at most, suited and interested: managing and clearing the unlicensed isochronous band.¹⁹

Limiting UTAM's authority in this manner is entirely consistent with Apple's interest in the prompt deployment of Data-PCS. Under the UTAM Plan, deployment will be delayed for as many as twelve years under UTAM's own estimates,²⁰ and potentially for an even longer period if UTAM's cost-sharing estimates prove overly optimistic or if a substantial market for coordinatable asynchronous devices does not develop. Apple firmly believes that a more expeditious and, ultimately, workable proposal for clearing spectrum for nomadic data PCS devices can be developed in the context of finalizing an additional allocation for unlicensed asynchronous PCS.

¹⁹ There clearly will be a certain degree of overlap between UTAM's responsibilities and the tasks assigned to any organization responsible for the unlicensed asynchronous band. In general, such overlap will be of the same nature as the overlap between licensed and unlicensed PCS, and can be handled in the same manner as such overlaps will be handled. To the extent that particular synergies exist in clearing the unlicensed asynchronous and unlicensed isochronous bands (for example, a shared early deployment database), such issues could be addressed by the Commission when it designates a separate entity for clearing the unlicensed asynchronous band.

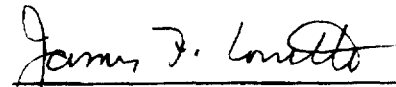
²⁰ UTAM Plan at 53.

CONCLUSION

For the reasons discussed herein, the Commission should reject the current UTAM Plan and take the actions described above.

Respectfully submitted,

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September 27, 1994

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing Reply Comments on UTAM Plan for Financing and Managing 2 GHz Microwave Relocation was sent by first-class mail, postage prepaid, this 27th day of September, 1994, to each of the following:

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